I have successfully employed the bisulphite of calcium for the preservation of numerous anatomical and other specimens, as it does its work perfectly, and without occasioning the great changes of colour and contraction of muscular structure so frequently produced by ordinary antiseptics; moreover, its special advantage over the preparations of mercury and arsenic lies, to my thinking, in the fact that it is not poisonous, and can therefore be handled with perfect safety.

There are numerous substances employed in pharmacy—such as musk, castoreum, lard, and other fatty matters—which are more or less injured by decomposition or keeping for any length of time. To these the bisulphite can be applied with considerable advantage.—*Med. Press and Circular*, Nov. 6, 1867.

20. *Mustard Paper.*—M. RIGOLLOT, a Paris pharmacien, has, under the name of *papier sinapisé*, contrived an elegant preparation which embraces all the advantages of the mustard cataplasm without incurring the risk of its inefficiency, owing to the loss of power in the flour of mustard. He has done this by extracting the fixed oil while retaining the rubefacient principle. A piece of the paper of the required size is put in water for a few seconds and placed wet on the part, whereon it is bound with a handkerchief. It does not cost more than the ordinary mustard plaster, and is always ready and promptly efficacious.—*Med. Times and Gaz.*, from *Bull. de Thérap.*, Sept. 30.

MEDICAL PATHOLOGY, SPECIAL THERAPEUTICS, AND PRACTICAL MEDICINE.

21. *Nature of Tubercle.*—There is not at this moment a question of greater interest and urgency than the discussion of the pathology and natural history of pulmonary tubercle. Two opinions confront each other. The first considers all the lesions of the tuberculous lung as dependent on tuberculosis; that these lesions have their seat in the intervesicular walls, or that they reside even in the interior of the vesicle. In the opinion of the German school, on the contrary, tubercle exists exclusively in the wall of the vesicles; and the elements which fill the cell-cavity are epithelial products of inflammatory origin, allied to what is called caseous pneumonia. These opinions were brought into contact at the Paris Congress. M. Villemin ably supported the first doctrine. According to this view, the gray granulation and the matter of caseous pneumonia are equally tuberculous lesions; these elements, which are wrongly distinguished, both proceed from the cell-nuclei which form part of the septum of the vesicles. Those which accumulate in the cavities of the pulmonary alveoli owe to compression the flat surfaces which give them an epithelial aspect; but they are in reality formed of proliferous cells, rapidly undergoing fatty metamorphosis. M. Villemin rejects, besides, the doctrine of the specificity of tuberculous lesions. The granulations have their analogues in those of the syphilitic gummy deposits which have sometimes been confounded with them; and, moreover, the elements which constitute them have their physiological representatives in those of lymph and of the lymphoid tissues. In discussing the question of the inoculability of tubercle, M. Lebert declared that, by injecting into the veins of animals tuberculous products, and other morbid products, such as those of melanosis and carcinoma, or various substances, mercury and charcoal, he has produced embolism in the capillaries of the lung, and has seen inflammatory lesions supervene, of which some resemble those of tuberculosis. M. Berpet (of Cercoux) believed in the transmission of tubercle by respiratory exhalation. M. Seco y Valdor (of Madrid) related several cases he had observed of transmission of phthisis by cohabitation. M. Villemin's experiments, confirmed in most points by those of Mr. Simon and Dr. Marcet in this country, are interesting from all points of view, but especially so from their tendency to throw once more into the arena the question of the nature of pulmonary tuber-

cular disease. If it be true that the same condition can be induced in the lung by the inoculation into the tissues of charcoal, pus, mercury, what you please, as by the inoculation of tubercle, then this certainly would not indicate that tuberculosis is a specific, virulent, and inoculable disease, as was the first conclusion from these remarkable experiments.—*British Med. Jour.*, Nov. 2, 1867.

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22. *Inoculation of Animals as a Means of Diagnosis in Tubercular Phthisis.* —Dr. Wm. Marcet, in a paper read before the Royal Medical and Chirurgical Society (June 25, 1867), remarked that we are indebted to Dr. Villemin for the very remarkable discovery that tubercular phthisis can be inoculated from man to animals; rabbits and guinea-pigs, which are naturally liable to the disease, being fit subjects for inoculation. When I became acquainted with Villemin's papers, I happened to be engaged with an investigation of the expectorations in phthisis, and it struck me that, if his results were correct, by inoculating the expectorations of phthisical patients, containing tubercular matter, to healthy rabbits or guinea-pigs, these animals would become tubercular; thus I thought that a physiological method of diagnosis of great importance might be arrived at, for should the inoculated animals, after a certain time had elapsed, either die tubercular, or, on being killed, exhibit tubercles in any part of their body, there could be no more direct evidence as to the nature of the diseased condition of the patient whose expectorations had been used for inoculation. If the result of the inquiry was found to be in accordance with this view, I had yet to show that the non-appearance of tubercles in guinea-pigs inoculated with expectorations from a supposed incipient case of phthisis might be considered as evidence of the patient's lungs not being tubercular. This second part of the question is more difficult to solve than the first; I am engaged with it at present. Twenty-two guinea-pigs were submitted to experiment. The expectorations of nine different patients suffering from phthisis were inoculated to as many guinea-pigs; in two cases two animals were inoculated respectively with the sputa from the same patient. Of these nine patients, eight could be safely considered in the second stage of phthisis, the tubercles undergoing softening and being expectorated. One patient appeared to be in the chronic third stage, with cavities contracting. The sputa of one well-diagnosed case of bronchitis was inoculated to a guinea-pig, for the sake of comparison, and one young animal of the same litter as two which were inoculated was kept without being inoculated for a similar purpose. This will account for thirteen of the animals. The remaining nine were used in these experiments as follows: Two guinea-pigs were inoculated with the expectorations of two cases of doubtful phthisis. One animal was inoculated with blood taken from a body during a post-mortem examination at the Brompton Hospital; another with blood procured from the last animal eleven days after the former operation; two were inoculated with pus taken from the chest in a case of empyema, where paracentesis thoracis had been performed; lastly, three sound guinea-pigs, kept with those that had been operated on, were killed in order to ascertain whether their internal organs were free from tubercles. The following results were obtained from the inoculation of the eleven guinea-pigs with the expectorations from phthisical patients: One of the animals died three days after the inoculation, obviously from some cause independent of the influence which the inoculated matter might have exerted towards the development of tubercles, and in this case no tubercles could be found in the body of the animal. Six guinea-pigs died, and every one of them exhibited most positively tubercles to a greater or less extent. Of these five died between forty-three and fifty-six days after being inoculated, and one case proved fatal in twenty-one days, on February 7, the cold weather having obviously weakened the animal, and contributed to the rapid termination of the disease; in the present case the guinea-pig's spleen alone was found tubercular. Four other guinea-pigs were killed at periods varying from forty-seven to fifty-four days after inoculation, and tubercles were found in every one of these animals. There are seven more cases of inoculation to account for—1st. Inoculation with expectorations from a patient exhibiting doubtful signs of tubercles. Results: Death two after inoculation from the effects of the operation; no tubercles found. 2d. Inoculation from another doubtful case of phthisis; ani-